

REMARKS

Claims 14-16, 18 and 20-30 are pending in the present application. Support for new claim 30 is found at page 9, line 28 to page 10, line 11.

Issues under 35 USC 103(a)

Claims 14-16 and 18-29 have been rejected under 35 USC 103(a) as being unpatentable over Sobkin '600 (US 6,555,600) in view of Lozano '599 (US 6,033,599).

Claims 14-16, 18 and 20-29 have been rejected under 35 USC 103(a) as being unpatentable over Sobkin '600 in view of Lozano '599 and Cha '769 (US 5,156,769).

These rejections are traversed based on the reasons below.

Present Invention and Its Advantages

The present invention is directed to a volatile corrosion inhibitor, as well as a molding material containing the same, which includes an anticorrosive component along with other components. The anticorrosive component is at least one selected from the group of: an alkali metal salt or alkaline earth metal salt or zinc salt of methylbenzotriazol; or 2-mercaptobenzothiazole, 2-benzothiazolythioacetic acid, 3-2-benzothiazolythiopropionic acid, 2,4,6-trimercapto-s-triazine, 2-dibutylamino-4,6-dimercapto-s-triazine, and alkali metal salts, alkaline earth metal salts, and zinc salts thereof, as recited in claim 14, for example. Embodiments of the present invention exhibit unexpected, advantageously improved properties as evidenced by the comparative test results described at pages 15-22 of the present specification and summarized in Tables 1-3. As is evident from the test results, Examples 1-4, 6 and 7 (present invention) exhibited significantly improved properties, such as anti-corrosive properties, over the other comparative examples which do not include the anticorrosive component.

In addition to the above, the comparative test results show that if the non-metal salt forms of benzotriazol or methylbenzotriazol are kneaded into a thermoplastic resin at a temperature of not lower than 100°C and subsequently molded, disadvantageous molding defects arise in the molding process because of problematic melting as explained at page 3, lines 15 to 28, and page 6, lines 1 to 7, of specification. In contrast, the present invention employs metal salts of

methylbenzotriazol or the other recited anticorrosive components to advantageously reduce molding defects. This is apparent from results summarized in Table 3 of the specification. As Examples 11-13 show, if benzotriazol or methylbenzotriazol are used as the anticorrosive component for nonferrous metals, the properties of the resulting film becomes poor. In contrast, when metal salts thereof are used as the anticorrosive component for nonferrous metals, the properties of the resulting film advantageously improve to "good" as shown by Example 5.

Distinctions over Cited References

Sobkin '600 discloses corrosion inhibiting thermoplastic alloys which may include benzotriazole as a component therein. Sobkin '600 fails to disclose or suggest the use of a metal salt of methylbenzotriazol, or the use of the other alternative anticorrosive components, employed in the claimed invention.

Lozano '599 discloses a corrosion inhibiting composition which includes alkali metal nitrite or alkaline earth metal nitrite, alkali metal benzoate or alkaline earth metal benzoate, and alkali metal molybdate or alkaline earth metal molybdate. Lozano '599 fails to disclose or suggest the use of a metal salt of methylbenzotriazol, or the other recited alternative anticorrosive components, employed in the claimed invention.

Cha '769 a composition for inhibiting corrosion of copper which includes phenyl mercaptotetrazole and tolyltriazole and/or benzotriazole and salts thereof as noted at col. 2, lines 9-22. Cha '769 fails to disclose or suggest the use of a metal salt of methylbenzotriazol, or the use of any of the other alternative anticorrosive components, employed in the claimed invention.

All of Sobkin '600, Lozano '599 and Cha '769 fail to recognize the unexpected, advantageous properties exhibited by the present invention as evidenced by the comparative test results discussed above. Thus, significant patentable distinctions exist over all of these references. Further, even assuming that prima facie obviousness has been properly alleged, such obviousness has been rebutted by the evidence of unexpected, advantageous properties. Consequently, the above rejections must be withdrawn.

It is submitted for the reasons above that the present claims define patentable subject matter such that this application should now be placed in condition for allowance.

If any questions arise in the above matters, please contact Applicant's representative, Andrew D. Meikle (Reg. No. 32,868), in the Washington Metropolitan Area at the phone number listed below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By 

Andrew D. Meikle

Registration No.: 32,868

BIRCH, STEWART, KOLASCH & BIRCH, LLP

8110 Gatehouse Road

Suite 100 East

P.O. Box 747

Falls Church, Virginia 22040-0747

(703) 205-8000

Attorney for Applicant